



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,240	05/30/2001	Mark C. Duhon	22.1397	8266

7590

07/09/2004

Patent Counsel
SCHLUMBER RESERVOIR COMPLETIONS
SCHLUMBERGER TECHNOLOGY CORPORATION
P.O. BOX 1590
ROSHARON, TX 77583

EXAMINER

GAY, JENNIFER HAWKINS

ART UNIT PAPER NUMBER

3672

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/871,240

Applicant(s)

DUHON ET AL.

Examiner

Jennifer H Gay

Art Unit

3672

NW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,5-11 and 27-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,5-11,27-33 and 35-43 is/are rejected.
- 7) ☒ Claim(s) 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 2, 3, 27, 28, 35, and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Arizmendi (US 5,941,313).

Regarding claim 2: Arizmendi discloses an apparatus usable in a wellbore. The apparatus includes an element formed from titanium or other material that has sufficient strength and elasticity to bend without fracturing, i.e. a superplastic material. The element may be used as a seal (Abstract).

Regarding claim 3: Arizmendi discloses an apparatus usable in a wellbore. The apparatus includes an element formed from titanium or other material that has sufficient strength and elasticity to bend without fracturing, i.e. a superplastic material. The element may be used as an anchor. The examiner notes that wellbore packers inherently act as an anchor for the tubular string they are attached to.

Regarding claim 27: The superplastic element causes the seal to engage downhole tubing or casing.

Regarding claim 28: The apparatus is a packer.

Regarding claim 35: The packer may also function as an anchor.

Regarding claim 36: The packer includes a seal 26 that is actuated by the movement of a first sleeve 30 relative to a second sleeve 28.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metcalfe et al. (US 2002/0166668) in view of Montaron (US 6,250,385) and Miyake et al. (US 6,056,835).

Regarding claim 2: Metcalfe et al. discloses an apparatus for use in a wellbore. The apparatus includes an element that is formed from a ductile material that is plastically deformed (paragraph 0030) and includes a liner.

Metcalfe et al. discloses all of the limitations of the above claims except for the element being specifically made from a superplastic material and except for a heating device to heat the superplastic material to a temperature at which the element exhibits superplastic behavior.

Montaron discloses an expandable wellbore tubular similar to that of Metcalfe et al. Montaron further teaches that the tubular may be formed, at least in part, of aluminum (6:38-43).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Metcalfe et al. such that the element was formed from aluminum as taught by Montaron in order to have used a material that was easily deformed. One would have been motivated to make such a combination because a means for ensuring proper expansion would have been obtained, as taught by Montaron.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Metcalfe et al. in view of Montaron such that the element was made from a superplastic material such as that taught by Miyake et

al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

Regarding claim 27: The expansion of the element forces the seals into engagement with downhole casing.

Regarding claim 28: The examiner notes that while Metcalfe et al. does not specifically disclose that the seal is a packer, a wellbore packer is merely a wellbore seal. Therefore, Metcalfe et al. discloses a packer.

Regarding claim 29: Though not specifically disclosed, the expansion of the element could function as a patch for the wellbore casing.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Owen et al. (US 3,712,376) in view of Miyake et al. (US 6,056,835).

Owen et al. discloses an apparatus usable in a wellbore. The apparatus includes an element that is formed from aluminum (6:37-43). The element may function as a sand screen (8:18-21).

Owen et al. discloses all of the limitations of the above claims except that the element was formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Owen et al. such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ayyildiz et al. (US 5,443,146) in view of Miyake et al. (US 6,056,835).

Ayyildiz et al. discloses an element, i.e. shock absorber, which is formed with aluminum elements (8:35-39). The examiner notes that while the shock absorber of Ayyildiz et al. is not for use in a wellbore, due to the harsh and corrosive environment of a vehicle, certain elements in an automobile encounter similar environmental conditions that wellbore equipment encounters. Further, a "shock absorber" is an element that is well known in a wide variety of arts and is not specific to wellbore equipment.

Ayyildiz et al. discloses all of the limitations of the above claims except that the element was formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Ayyildiz et al. such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brieger (US 4,122,899) in view of Miyake et al. (US 6,056,835).

Brieger discloses an apparatus usable in a wellbore. The apparatus includes an element that is formed from aluminum and includes a releasable connector (3:60-63).

Brieger discloses all of the limitations of the above claims except for the element being specifically formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Brieger such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thompson et al. (US 6,454,001) in view of Miyake et al. (US 6,056,835).

Thompson et al. discloses an apparatus usable in a wellbore. The apparatus includes an element that is formed from aluminum and includes a releasable connector (5:65-6:7).

Thompson et al. discloses all of the limitations of the above claims except for the element being specifically formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Thompson et al. such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

9. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henning (US 4,042,019) in view of Miyake et al. (US 6,056,835).

Henning discloses an apparatus usable in a wellbore. The apparatus includes an element formed from aluminum (4:42-45). The element is included in a shape charge.

Henning discloses all of the limitations of the above claims except that the element was formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Henning such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

10. Claims 10, 11, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohaupt (US 4,081,031) in view of Miyake et al. (US 6,056,835).

Regarding claim 10: Mohaupt discloses an apparatus usable in a wellbore. The apparatus includes an element that is formed from aluminum (4:5-7) and includes a weak point connector (8:58-60).

Mohaupt discloses all of the limitations of the above claims except for the element being specifically formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Mohaupt such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

Regarding claim 11: Mohaupt discloses an apparatus usable in a wellbore. The apparatus includes an element that is formed from aluminum (4:5-7) and a heating device to heat the element to a temperature at which the material will plastically deform.

Mohaupt discloses all of the limitations of the above claims except for the element being specifically formed from a superplastic material, i.e. that aluminum is a superplastic material.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Mohaupt such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

Regarding claim 39: The heating device is a chemical propellant.

11. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Metcalfe et al. (US 2002/0166668) in view of Montaron (US 6,250,385) and Miyake et al. (US 6,056,835) as applied to claims 2 and 27 above, and further in view of Mohaupt (US 4,081,031).

Regarding claim 30: Metcalfe et al., Montaron, and Miyake et al. disclose all of the limitations of the above claims except for a heating device to heat the superplastic material to a temperature at which the element exhibits superplastic behavior.

Mohaupt discloses a downhole heating element. Mohaupt further teaches using the heating element to deform the walls of the aluminum housing of the tool (4:4-7).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Metcalfe et al. in view of Montaron and Miyake et al. to include a heating element as taught by Mohaupt in order to have used a well known method for cause a superplastic material to exhibit superplastic behavior (1:19-30 of Miyake et al.). One would have been motivated to

make such a combination because a means for increasing the ability of the element to expand would have been obtained, as inferred by Mohaupt.

Regarding claim 31: Metcalfe et al. includes a piston to cause the translation of the element (paragraph 0045).

Regarding claim 32: The heating device is a chemical propellant.

12. Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arizmendi (US 5,941,313) in view of Mohaupt (US 4,081,031).

Regarding claim 30: Arizmendi discloses all of the limitations of the above claims except for a heating device to heat the superplastic material to a temperature at which the element exhibits superplastic behavior.

Mohaupt discloses a downhole heating element. Mohaupt further teaches using the heating element to deform the walls of the aluminum housing of the tool (4:4-7).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Arizmendi to include a heating element as taught by Mohaupt in order to have used a well known method for cause a superplastic material to exhibit superplastic behavior (1:19-30 of Miyake et al.). One would have been motivated to make such a combination because a means for increasing the ability of the element to expand would have been obtained, as inferred by Mohaupt.

Regarding claim 31: The apparatus includes a piston 30 to cause translation of the element.

Regarding claim 32: The heating device is a chemical propellant.

13. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Metcalfe et al. (US 2002/0166668) in view of Montaron (US 6,250,385) and Miyake et al. (US 6,056,835) as applied to claims 2 and 27 above, and further in view of Gonzalez et al. (US 6,474,414).

Metcalfe et al., Montaron, and Miyake et al. disclose all of the limitations of the above claims except for the element further including a plug to block the flow of fluid through the bore of a conduit.

Gonzalez et al. teaches a downhole plug for blocking flow through a conduit. The plug is characterized as being made from a highly ductile and flowable solder such as aluminum (3:35-37, 6:17-18).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the element of Metcalfe et al. in view of Miyake et al. and Montaron to include a plug such as that taught by Gonzalez et al. in order to have been able to isolate sections of the wellbore from other sections of the wellbore (1:5-16). One would have been motivated to make such a combination because a means for easily installing and removing wellbore plugs would have been obtained, as taught by Gonzalez et al. (2:1-23).

14. Claim 33 rejected under 35 U.S.C. 103(a) as being unpatentable over Arizmendi (US 5,941,313) in view of Gonzalez et al. (US 6,474,414).

Arizmendi disclose all of the limitations of the above claims except for the element further including a plug to block the flow of fluid through the bore of a conduit.

Gonzalez et al. teaches a downhole plug for blocking flow through a conduit. The plug is characterized as being made from a highly ductile and flowable solder such as aluminum (3:35-37, 6:17-18).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the element of Arizmendi to include a plug such as that taught by Gonzalez et al. in order to have been able to isolate sections of the wellbore from other sections of the wellbore (1:5-16). One would have been motivated to make such a combination because a means for easily installing and removing wellbore plugs would have been obtained, as taught by Gonzalez et al. (2:1-23).

15. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Metcalfe et al. (US 2002/0166668) in view of Mohaupt (US 4,081,031), Montaron (US 6,250,385), and Miyake et al. (US 6,056,835).

Metcalf et al. discloses an apparatus for use in a wellbore. The apparatus includes an element that is formed from a ductile material that is plastically deformed (paragraph 0030) and includes a liner.

Metcalf et al. discloses all of the limitations of the above claims except for the element being specifically made from a superplastic material and except for a heating device to heat the superplastic material to a temperature at which the element exhibits superplastic behavior.

Montaron discloses an expandable wellbore tubular similar to that of Metcalf et al. Montaron further teaches that the tubular may be formed, at least in part, of aluminum (6:38-43).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Metcalf et al. such that the element was formed from aluminum as taught by Montaron in order to have used a material that was easily deformed. One would have been motivated to make such a combination because a means for ensuring proper expansion would have been obtained, as taught by Montaron.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Metcalf et al. in view of Montaron such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

Mohaupt discloses a downhole heating element. Mohaupt further teaches using the heating element to deform the walls of the aluminum housing of the tool (4:4-7).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Metcalf et al. in view of Montaron and Miyake et al. to include a heating element as taught by Mohaupt in order to have used a well known method for cause a superplastic material to exhibit

superplastic behavior (1:19-30 of Miyake et al.). One would have been motivated to make such a combination because a means for increasing the ability of the element to expand would have been obtained, as inferred by Mohaupt.

16. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Owen et al. (US 3,712,376) in view of Miyake et al. (US 6,056,835) as applied to claim 5 above, and further in view of Mohaupt (US 4,081,031).

Owen et al. and Miyake et al. discloses all of the limitations of the above claims except for a heating device to heat the superplastic material to a temperature at which the element exhibits superplastic behavior.

Mohaupt discloses a downhole heating element. Mohaupt further teaches using the heating element to deform the walls of the aluminum housing of the tool (4:4-7).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Owen et al. in view of Miyake et al. to include a heating element as taught by Mohaupt in order to have used a well known method for cause a superplastic material to exhibit superplastic behavior (1:19-30 of Miyake et al.). One would have been motivated to make such a combination because a means for increasing the ability of the element to expand would have been obtained, as inferred by Mohaupt.

17. Claims 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Timmons (US 3,380,528) in view of Meitzen (US 3,713,486) and Miyake et al. (US 6,056,835).

Timmons discloses an apparatus usable in a wellbore. The apparatus includes a fishing tool that includes expandable element (figures 2 and 3) for engaging the inner wall of a conduit to be removed from the wellbore.

Timmons discloses all of the limitations of the above claims except for the element being formed from a superplastic material.

Meitzen discloses a wellbore anchoring devices that includes slips 14 similar to those of Timmons. Meitzen further teaches that the slips are formed from aluminum.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Timmons such that the expandable element of the fishing tool was formed from aluminum as taught by Meitzen in order to have used an expandable element that would have deformed upon contact with the "fish". One would have been motivated to make such a combination because a means for removing a "fish" from the wellbore without damaging the tubular or other lost equipment would have been obtained.

Miyake et al. teaches that aluminum is a well known superplastic (2:9-13, 5:48-65). It is further well known that aluminum is a ductile material.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Timmons in view of Meitzen such that the element was made from a superplastic material such as that taught by Miyake et al. in order to have formed the element from a material that was capable of being subjected to expanding without failure (1:5-10). One would have been motivated to make such a combination because an element that was more versatile and less prone to failure would have been obtained, as taught by Miyake et al. (36:1-20).

18. Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmer (US 6,056,059) in view of Mohaupt (US 4,081,031).

Ohmer discloses an apparatus usable in a wellbore. The apparatus includes junction seal assembly that is formed from a super plastic material such as Monel or Inconel (14:55-59). The junction assembly includes a tubing that is inserted into a lateral wellbore (Figure 18A-18E).

Ohmer discloses all of the limitations of the above claims except for a heating device to heat the superplastic material to a temperature at which the element exhibits superplastic behavior.

Mohaupt discloses a downhole heating element. Mohaupt further teaches using the heating element to deform the walls of the aluminum housing of the tool (4:4-7).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the apparatus of Ohmer to include a

heating element as taught by Mohaupt in order to have used a well known method for cause a superplastic material to exhibit superplastic behavior (1:19-30 of Miyake et al.). One would have been motivated to make such a combination because a means for increasing the ability of the element to expand would have been obtained, as inferred by Mohaupt.

Allowable Subject Matter

19. Claim 34 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

20. Applicant's arguments with respect to claims 2, 3, 6, 8-11, and 27-43 have been considered but are moot in view of the new ground(s) of rejection.
21. Applicant's arguments filed 07 June 2004 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no motivation to combine the element of Arizmendi and the Miyake reference, the examiner agrees. Arizmendi discloses a packer with a titanium element and Miyake is drawn to aluminum. However, upon a closer review of the Arizmendi reference, the examiner determined that Arizmendi could be applied under 35 USC 102(e). Arizmendi discloses using titanium in the packer because it is a material that will not fracture when expanded or deformed. This is specifically applicant's definition of the term superplastic material thus Arizmendi meets the limitation of superplastic material.

In response to applicant's argument that there is no suggestion to combine Owens, Brieger, Thompson, or Mohaupt with Miyake, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to

one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Miyake was used merely to supply a teaching that aluminum was a known superplastic material as admitted by applicant beginning in line 30 of page 3 of the specification of the instant application. Miyake was specifically to define the elements of Owens, Brieger, Thompson, or Mohaupt as being formed from a superplastic material.

Conclusion


22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The remaining references made of record disclose various aluminum shock absorbers and various wellbore equipment that include superplastic materials.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer H Gay whose telephone number is (703) 308-2881. The examiner can normally be reached on Monday-Thursday, 6:30-4:00 and Friday, 6:30-1:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on (703) 308-2151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer Gay
Patent Examiner
Art Unit 3672

JHG 
June 30, 2004